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JP01224330

DIMERIZATION OF AROMATIC HALOGEN COMPOUND

mitsubishi kasei corp

Inventor(s): ; SATO KEIICHI ; TAKEWAKI TAKAHIKO ; OGOSHI TORU

Application No. 63049016 , Filed 19880302 , Published 19890907

Abstract:

PURPOSE: To readily obtain diaryl compounds in high selectivity and yield, by subjecting an aromatic halogen compound to dehalogenodimerization in the presence of a platinum metal catalyst and alkali metal compound in an aqueous medium while coexisting chloroform and amine.

CONSTITUTION: An aromatic compound having at least one halogen such as 4-chloroorthophthalic acid monosodium salt at an aromatic nucleus carbon subjected to dehalogeno dimerization reaction in the presence of a platinum group metal catalyst such as Pd/C and an alkali (earth) metal compound such as NaOH together with chloroform and amine such as methyl amine in an aqueous solvent consisting of only water or water and inert solvent such as tetrahydrofuran at 50W200°C under ordinary pressure W 200kg/m²to provide the aimed compound such as 3,4,3',4'-biphenyltetracarboxylic acid sodium salt useful as a raw material for producing heat resistant polyimide resin.

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Int'l Class: C07B03704 C07C00126 C07C01524 C07C01726 C07C02518 C07C02522 C07C04130 C07C043205 C07C051353 C07C063331 C07C08750 C07C10200 C07C10324 C07B06100

MicroPatent Reference Number: 000520868

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REGENERATION OF PALLADIUM CARRYING CATALYST

MITSUBISHI KASEI CORP

Inventor(s): ;KITAI MITSUMASA ;SUGURO YOSHIO ;KAWAMURA SHIGENORI

Application No. 63129235 , Filed 19880526 , Published 19891204

Abstract:

PURPOSE: To regenerate a palladium carrying catalyst used in reaction of dimerization of an aromatic halogen compound through dehalogenation in the presence of water, reducing agent and halogen acceptor, by immersing the catalyst in an organic solvent having compatibility with water and then in a halogenated hydroacid.

CONSTITUTION: An aromatic halogen compound is dimerized through dehalogenation to give a biaryl compound and a Pd carrying catalyst (preferably Pd-active carbon catalyst) used in the reaction is regenerated. In the regeneration, first, the catalyst is blended with an organic solvent (e.g., methanol, DMF or THF) having compatibility with water in a stirring container, treated at 10-40°C for 5 minutes 3 hours, then immersed in a halogenated hydroacid (preferably 0.01-1wt.% hydrochloric acid) and treated under the same condition as the organic solvent. The catalyst after the treatment is neutralized in an alkali system, filtered and recovered.

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Int'l Class: C07B03704 B01J02396 C07C051353 C07C063331 C07B06100

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DIMERIZATION OF AROMATIC HALOGEN COMPOUND

mitsubishi kasei corp

**Inventor(s): ;SATO KEIICHI ;TAKEWAKI TAKAHIKO ;OGOSHI TORU ;SUGURO
YOSHIO**

Application No. 63203534 , Filed 19880816 , Published 19900222

Abstract:

PURPOSE: To produce a biaryl compound in a high yield industrially and advantageously by dehalogenating and dimerizing an aromatic halogen compound by using a catalyst prepared by supporting a palladium compound on a carrier in the presence of a hydrohalogenic acid.

CONSTITUTION: An aromatic halogen compound (e.g., chlorobenzene) containing at least one halogen atom on an aromatic carbon is dehalogenated and dimerized in the presence of water, reducing agent (e. g., methanol or ethylene glycol) and a halogen acceptor (e.g., salt of alkali metal or alkaline earth metal) by using a catalyst prepared by supporting a palladium compound (e.g., tetrachloropalladium ammonium salt) on a carrier (especially preferably active carbon) as the catalyst to give a biaryl compound.

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Int'l Class: C07C01514 B01J02713 C07C00126 C07C051353 C07C063331 C07B06100

MicroPatent Reference Number: 000800257

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METHOD OF DIMERIZING AROMATIC HALOGEN COMPOUND
MITSUBISHI CHEM IND LTD
Inventor(s): ;WADA HIROSUKE ;SATO KEIICHI
Application No. 60165284 , Filed 19850726 , Published 19870204

Abstract:

PURPOSE: To obtain in high yield the tilted compound, by dehalogenating and dimerizing an aromatic compound containing at least one halogen nucleus in the presence of a palladium catalyst, water and a polyhydric alcohol and/or formaldehyde.

CONSTITUTION: An aromatic compound (e.g., chlorobenzene, etc.,) containing at least one halogen atom at an aromatic nucleus carbon is dehalogenated and dimerized in the presence of a palladium catalyst (especially palladium- active carbon catalyst is preferable and amount of it used is preferably 30W0.1mg atom calculated as Pd atom based on 1mol aromatic halogen compound), water and a polyhydric alcohol (e.g., ethylene glycol, glycerin, etc.) and/or a formaldehyde (e.g., paraformaldehyde, formalin, to give a dimer of the aromatic compound. Preferably a halogen acceptor (e.g., NaOH, etc.,) is also used in the reaction.

USE: A raw material for heat-resistant polyimide resin.

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Int'l Class: C07B03704 B01J02344 C07C00126 C07C01514 C07C051353 C07C063331

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JP61137838
PRODUCTION OF 3,3',4,4'-BIPHENYLTETRACARBOXYLIC ACID SALT
HITACHI LTD
Inventor(s): ;SHOJI FUSAJI ;KATAOKA FUMIO
Application No. 59257565 , Filed 19841207 , Published 19860625

Abstract:

PURPOSE: To obtain the titled compound useful as a raw material of polymers, with easy separation and recovery of the reaction product, in high yield, by carrying out the dehalogenation dimerization of a 4-halogeno-orthophthalic acid salt with formic acid, etc. in the presence of a Pd-supported catalyst and a base.

CONSTITUTION: The 4-halogeno-orthophthalic acid salt of formula I (X is halogen) is subjected to the dehalogenation dimerization using especially water as the solvent, in the presence of a catalyst prepared by supporting metallic Pd on a carrier, preferably Pd/C catalyst, etc. and a base such as KOH, and in the presence of formic acid or an alkaline aqueous solution at 70W150°C under a pressure of $\leq 10\text{kg/cm}^2$ for 0.2W20hr. After the completion of the reaction, the reaction liquid is cooled, the Pd-carrier catalyst is removed by filtration, and the filtrate is acidified (1W3pH) with hydrochloric acid to obtain the objective compound of formula II as white precipitate.

USE: Used as raw material of polyimide, epoxy resin hardener, etc.

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Int'l Class: C07C063331 C07C051347 B01J02344